SAMPLE MATERIAL

Student Handout: Order of Operations Homework With Worked Examples

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Topic: How to Organize Your Teaching
Practice: Alternate Examples with Practice

This is an example of how homework sets can alternate worked out problems with problems for students to solve. This set of problems focuses on order of operations. Correct answers are offered as ways to help students think about problem solving strategies and provide an opportunity to explain their thinking. Seeing examples and having opportunities to explain or reflect on the strategies required can give students valuable insights into how to approach problems of a similar type.

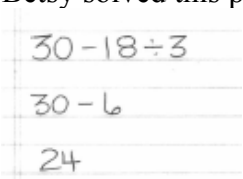
Order of Operations

Find the value of each expression:

1. $30 - 18 \div 3$

Correct Example

Betsy solved this problem correctly. Here are the steps she used to solve the problem:



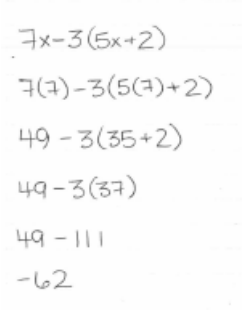
Why is this correct?

2. $21 - 16 - 4$

7. $7x - 3(5x + 2)$

Correct Example

Betsy solved this problem correctly. Here are the steps she used to solve the problem:



Why is this correct?

8. $(8x-6)(2x+1)$

9. A person's handicap in bowling is usually found by subtracting the person's average a from 200, multiplying by 2, and dividing by 3. Sara's average is 140. Evaluate the expression $\frac{2(200-a)}{3}$ to find Sara's handicap.

Correct Example

Betsy solved this problem correctly. Here are the steps she used to solve the problem:

$\frac{2(200-a)}{3}$

$\frac{2(200-140)}{3}$

$\frac{2(60)}{3}$

$\frac{120}{3}$

40

Why is this correct?

10. If you know how tall you were at the age of 2, you can estimate your adult height (in inches). Girls can use the expression $25+1.17h$ where h is the height (in inches) at the age of 2. Boys can use the expression $22.7+1.37h$. Estimate the adult height of each person to the nearest inch.

a. A girl who was 36 inches tall at age 2
b. A boy who was 34 inches tall at age 2.